



Editorial

Fifty Years of Problem-based Learning

In 1969, this year just fifty years ago, a first group of twenty medical students entered a newly established medical school at McMaster University in Hamilton, Ontario, Canada. They were to be part of an educational experiment that profoundly changed the face of medical education worldwide. This experiment was called problem-based learning (PBL). Lectures were largely abolished and students worked in small groups on “problems” guided by a tutor. Individual study was largely self-directed and based a set of learning issues derived from the discussion of the problem. In addition, knowledge from the basic sciences—physiology, biochemistry, anatomy—was to be integrated with the clinical sciences. This implied that students were confronted, from the beginning of their studies, with medical problems around which they acquired relevant knowledge.^{1,2}

The pioneers, most of them clinicians, saw problem-based learning initially as a way to make medical education more motivating. Studying medicine was often perceived by students as boring and of little relevance. By allowing students to work on medical problems from the start of their studies, they would learn to see the relevance of the subject matter for the practice of medicine. Working in small groups would also promote the active involvement of students in their studies. And finally, solving medical problems would teach students how to reason appropriately about clinical problems.

Its impact on medical schools at large was not immediate. By the end of the seventies, two other schools, one in The Netherlands, another in Australia, copied the approach, followed in the early eighties by an Egyptian medical school and a parallel track at the University of New Mexico in the US. Not surprisingly, these were all

new schools, more free to experiment with their education. This however was the beginning of a success story. Around 2005 for example, a majority of the medical schools in the United States included small-group tutorial sessions organized around clinical problems, and twenty percent of these considered themselves to be problem-based outright. In addition, most Australian medical schools had adopted PBL as their instructional method, and curricula based on these ideas have also been developed in Europe and Asia.³

Research followed suit. Fig. 1 shows the number of articles on PBL published each year since its inception as represented in Web of Science, the top journals database. These publications represent however a small subset of the total number of publications on the subject.

PBL has changed the face of health professions education. Its influence went beyond the introduction of a new instructional method. It has acted as an enzyme for curriculum renewal, first in medical education and later in the other health sciences. For instance, (1) many schools have integrated basic-science with clinical-science teaching around organ systems. (2) Within curricula there is greater emphasis on primary care as an important foundation of public health. (3) Students are earlier introduced into the health care system even before the clinical rotations. (4) Behavioral sciences are included in the curriculum to a larger extent. (5) Many schools, even those with conventional curricula, use patient problems as a focus of learning. (6) Forms of small-group learning have been introduced even in those programs. (7) The training of professional skills, such as physical examination and communication skills, receives much attention. (8) The overloaded lecture schedules have largely

Peer review under responsibility of AMEEMR: the Association for Medical Education in the Eastern Mediterranean Region

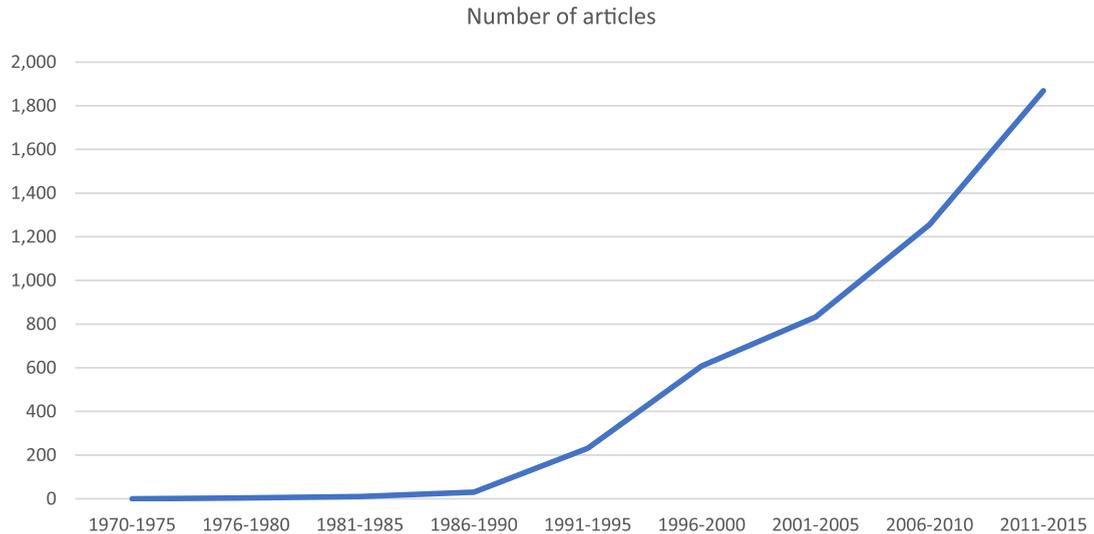


Fig. 1. Number of articles published between 1970 and 2015 on problem-based learning. Source: Web of Science. (Until 1990, a total of 40 articles were published.)

disappeared. And (9), planning of courses in parallel has given way to block or module programming.

Health Professions Education plans to pay tribute to the emergence of PBL fifty years ago by publishing a series of articles on how this approach to medical education emerged. Did it materialize out of the blue or have its roots in prior developments? The young historian of education, Virginie Servant, has studied its inception at McMaster University and its further development at Maastricht University in the Netherlands using original sources, reports of education committees, personal papers, and interviews with eyewitnesses. Throughout this year we will publish her findings in four contributions.

References

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